

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claim 1 (Currently Amended): ~~A method for producing a matrix, comprising:~~
~~dispensing with an electrode a ligand on one of a conductive carrier and a conductive~~
~~zone of a carrier; and~~
~~electrochemically fixing by the electrode the ligand to the one of a conductive carrier~~
~~and a conductive zone of a carrier, wherein~~
~~the ligand is coupled to an electropolymerisable monomer,~~
~~the electrochemical fixing comprises an electrically assisted synthesis of the~~
~~electropolymerisable monomer coupled to the ligand, and~~
~~the steps of dispensing and electrochemically fixing are conducted simultaneously.~~

A method for electrochemically fixing a matrix of deposits of a ligand on a plurality
of sites of a conductive carrier or of conductive zones of a carrier, said method including use
of an electrode and a carrier movable relative to one another, said electrode being configured
to distribute discrete volumes of a solution containing said ligand coupled to an
electropolymerisable monomer, said method comprising the steps of:

- a) positioning the electrode above one of said plurality of sites,
- b) distributing with the electrode on said one of said plurality of sites said discrete
volume of a solution and simultaneously circulating an electric current from said electrode to
said site to polymerize said electropolymerisable monomer, and
- c) electrochemically fixing the ligand on said one of said plurality of sites.

Claim 2 (Currently Amended): The method according to claim 1, wherein ~~the step of~~
~~the electrode dispensing with an electrode~~ comprises:

~~dispensing the ligand with an electrode having~~
a reservoir containing the solution ligand coupled to electropolymerisable monomer,
and having
a conductive part.

Claim 3 (Currently Amended): The method according to claim 2, wherein the
~~reservoir step of dispensing with an electrode having a reservoir and conductive part~~ comprises:

~~dispensing with an electrode having a reservoir provided with a ligand insertion and~~
~~evacuation device~~
means for filling said reservoir with said solution and evacuating said solution from
said reservoir.

Claim 4 (Currently Amended): The method according to claim 1, wherein
~~the dispensing with an electrode~~ comprises ~~[[:]] dispensing with one of a wire~~
electrode and a needle electrode, ~~wherein~~

~~the one of a wire electrode and a needle electrode is~~ configured to be charged
externally with said solution of ligand coupled to the electropolymerisable monomer, and
said step of distributing comprises establishing a contact is established between the
one of a wire electrode and a needle electrode and the ~~one of a conductive carrier and a~~
~~conductive zone of a carrier~~ one of said plurality of sites by a drop of ~~ligand~~ said solution
withheld on the one of a wire electrode and a needle electrode.

Claims 5 - 7 (Cancelled):

Claim 8 (Currently Amended): The method according to claim 1, wherein the ~~step of dispensing comprises:~~

~~dispensing a ligand on a plurality of~~ conductive zones of a carrier are formed of zones of conductive material arranged on an insulating carrier.

Claim 9 (Currently Amended): The method according to claim 8, wherein the ~~step of dispensing a ligand on a plurality of conductive zones comprises:~~

~~dispensing a ligand on~~ zones of conductive material ~~which~~ are electrically interconnected.

Claim 10 (Cancelled):

Claim 11 (Currently Amended): The method according to claim 8, wherein the ~~step of dispensing a ligand on a plurality of~~ conductive zones comprises:

~~dispensing the ligand on a~~ conductive material chosen from the group ~~made up~~ consisting of gold, silver, platinum, indium and tin oxide (ITO), carbon, and conductive organic polymers.

Claim 12 (Currently Amended): The method according to claim 1, wherein the solution step of dispensing comprises:

~~dispensing a solution containing the ligand coupled to the electropolymerisable monomer and a~~ doping agent.

Claim 13 (Currently Amended): The method according to claim 1, wherein the electropolymerisable monomer ~~comprises:~~

is pyrrole.

Claim 14 (Previously Presented): The method according to claim 1, wherein the step of electrochemically fixing the ligand comprises:

fixing the ligand by electro-copolymerisation of both the electropolymerisable monomer and the ligand coupled to the electropolymerisable monomer.

Claim 15 (Previously Presented): The method according to claim 1, wherein the ligand comprises:

one of a nucleotide, an oligonucleotide, an amino acid, and a peptide.

Claims 16-19 (Cancelled)

Claim 20 (New): A method for producing a matrix of deposits of different ligands electrochemically fixed on a plurality of sites of a conductive carrier or of conductive zones of a carrier, each site configured to receive a predetermined one of a plurality of different ligands, said method including the use of several electrodes and a carrier movable relative to one another, said electrodes configured to distribute a discrete volume of one of a plurality of solutions, each of said plurality of solutions containing one of a plurality of ligands coupled to an electropolymerisable monomer, said method comprising the steps of:

a) simultaneously or successively positioning two or more of said several electrodes above a corresponding two or more of said plurality of sites,

b) distributing on each of said two or more of a plurality of sites said discrete volume of one of a plurality of solutions, and simultaneously circulating an electric current to said one of a plurality of sites to polymerize the electropolymerisable monomer within said one of a plurality of solutions, and

c) electrochemically fixing the ligand within said one of a plurality of solutions on said two or more of said plurality of sites.

Claim 21 (New): The method according to claim 20, wherein said two or more of said several electrodes comprises:

at least two electrodes arranged together in a print head.

Claim 22 (New): The method according to claim 20, wherein each of said several electrodes comprises:

a reservoir configured to contain said discrete volume, and
a conductive part.

Claim 23 (New): The method according to claim 22, wherein the reservoir comprises:
means for filling said reservoir with said solution and evacuating said solution from said reservoir.

Claim 24 (New): The method according to claim 20, wherein
each of said plurality of several electrodes comprises one of a wire electrode and a needle electrode configured to be charged externally with said solution of ligand coupled to the electropolymerisable monomer, and

said step of distributing comprises establishing a contact between the one of a wire electrode and a needle electrode and a corresponding site by a drop of said solution withheld on the one of a wire electrode and a needle electrode.

Claim 25 (New): The method according to claim 20, wherein the conductive zones of the carrier are formed of zones of a conductive material arranged on an insulating carrier.

Claim 26 (New): The method according to claim 25, wherein the zones of the conductive material are electrically interconnected.

Claim 27 (New): The method according to claim 25, wherein the conductive material is chosen from the group consisting of gold, silver, platinum, indium and tin oxide (ITO), carbon, and conductive organic polymers.

Claim 28 (New): The method according to claim 20, wherein each of said plurality of solutions comprise:
a doping agent.

Claim 29 (New): The method according to claim 20, wherein the electropolymerisable monomer is pyrrole.

Claim 30 (New): The method according to claim 20, wherein the step of electrochemically fixing the ligand comprises:

fixing the ligand by electro-copolymerization of both the electropolymerisable monomer and the ligand coupled to the electropolymerisable monomer.

Claim 31 (New): The method according to claim 20, wherein the ligands are chosen from the group consisting of nucleotides, oligonucleotides, amino acids and peptides.